

1999-494977/42 J01 DOBE/ 1997.11.21
DOBERSEK A *DE 19751591-AI
1997.11.21 1997-1051591(+1997DE-1051591) (1999.09.02) G01N
9/00, B03B 13/00, F04B 49/00, G01N 9/26, G01F 1/76, G01N 1/20
Determination of flowing mineral suspension density, for e.g. ores,
coal, gypsum or sand
C1999-145344
Adnl. Data: DOBERSEK A, KLINIEWSKI Z

NOVELTY

The control computer is supplied with currently-measured values of pump motor power consumption (13). The density of the flowing suspension is determined in terms of the power consumed at given speed(s).

DETAILED DESCRIPTION

An INDEPENDENT CLAIM is included for corresponding equipment to carry out the measurement. Preferred features: Density is determined by division of the measured pump power, by a pump power coefficient. The pump power coefficient is determined from a functional relationship involving at least the pump rotary speed and the dependence of pumping efficiency on total working time. In one operational mode, the computer (11) controls pump (16) motor (15)

J(1-K)

speed in terms of plant parameter(s) through a variable speed drive (14) (frequency converter type). In another, to determine the density, the pump is operated at constant speed. A variant based on similar principles is described.

USE

To determine the density of minerals flowing in suspension, rising through a height to a hydrocyclone.

ADVANTAGE

Measurement takes place using a minimum of equipment, all of which may pre-exist on the plant. On-line measurement is achieved at little cost. The results may be used to automate the process. The plant is further detailed and illustrated in the disclosure. Equations on which the measurement is based, are provided.

DESCRIPTION OF DRAWING

A block diagram of the plant, including its instrumentation is presented.

DE 19751591-A+

(8pp2448DwgNo.1/3)

DE 19751591-A

